

Examples: Greatest Common Factor (GCF)	
1) $12x - 18$ $\underline{6(2x - 3)}$	2) $40x^8y + 64x^4y$ $\underline{8x^4y(5x^4 + 8)}$
3) $14x^6 - 35x^3 - 7x^2$ $\underline{7x^2(2x^4 - 5x - 1)}$	4) $3xy^2 - 5x^2y + 8xy$ $\underline{xy(3y - 5x + 8)}$

ALWAYS LOOKS FOR A GCF FIRST!!!

Examples: Trinomials (a = 1)	
5) $x^2 + 14x + 45$ $\begin{array}{r} 45 \\ 5 \times 9 \\ 14 \end{array}$ $\underline{(x+5)(x+9)}$	6) $x^2 - 15x + 26$ $\begin{array}{r} 26 \\ -2 \times -13 \\ -15 \end{array}$ $\underline{(x-2)(x-13)}$
7) $x^2 + 2x - 48$ $\begin{array}{r} -48 \\ 8 \times -6 \\ 2 \end{array}$ $\underline{(x+8)(x-6)}$	8) $x^2 - x - 72$ $\begin{array}{r} -72 \\ -9 \times 8 \\ -1 \end{array}$ $\underline{(x-9)(x+8)}$
9) $x^2 + 12x + 36$ $\begin{array}{r} 36 \\ 6 \times 6 \\ 12 \end{array}$ $\underline{(x+6)(x+6)}$ or $\underline{(x+6)^2}$	10) $x^2 - 2x + 1$ $\begin{array}{r} 1 \\ -1 \times -1 \\ -2 \end{array}$ $\underline{(x-1)(x-1)}$ or $\underline{(x-1)^2}$
11) $2x^2 - 16x - 40$ $2(x^2 - 8x - 20)$ $\begin{array}{r} -20 \\ 2 \times -10 \\ -8 \end{array}$ $\underline{2(x+2)(x-10)}$	12) $5x^2 - 25x + 30$ $5(x^2 - 5x + 6)$ $\begin{array}{r} 6 \\ -6 \times -5 \\ 1 \end{array}$ $\begin{array}{r} 6 \\ -2 \times -3 \\ -5 \end{array}$ $\underline{5(x-2)(x-3)}$

Examples: Trinomials (a > 1)	
13) $2x^2 - 15x + 18$ $\begin{array}{r} (2 \cdot 18) \\ 36 \\ -12 \times -3 \\ -15 \end{array}$ $\underline{(x-12/2)(x-3/2)}$ $\underline{(x-6)(2x-3)}$	14) $5x^2 + 22x - 48$ $\begin{array}{r} (5 \cdot -48) \\ -240 \\ -8 \times 30 \\ 22 \end{array}$ $\underline{(x-8/5)(x+30/5)}$ $\underline{(5x-8)(x+6)}$

<p>15) $3x^2 - 19x - 40$</p> <p>$\begin{matrix} (3 \cdot -40) \\ -120 \\ 5 \quad -24 \\ -19 \end{matrix}$</p> <p>$\begin{matrix} (x + \frac{5}{3})(x - \frac{24}{3}) \\ (3x + 5)(x - 8) \end{matrix}$</p>	<p>16) $12x^2 + 5x - 2$</p> <p>$\begin{matrix} (12 \cdot -2) \\ -24 \\ 8 \quad -3 \\ 5 \end{matrix}$</p> <p>$\begin{matrix} (x + \frac{8}{12})(x - \frac{3}{12}) \\ (x + \frac{2}{3})(x - \frac{1}{4}) \\ (3x + 2)(4x - 1) \end{matrix}$</p> <p>reduce fractions</p>
<p>17) $6x^2 - 5x - 21$</p> <p>$\begin{matrix} (6 \cdot -21) \\ -126 \\ 9 \quad -14 \\ -5 \end{matrix}$</p> <p>$\begin{matrix} (x + \frac{9}{6})(x - \frac{14}{6}) \\ (x + \frac{3}{2})(x - \frac{7}{3}) \\ (2x + 3)(3x - 7) \end{matrix}$</p> <p>reduce fractions</p>	<p>18) $16x^2 + 60x - 54$</p> <p>$2(8x^2 + 30x - 27)$</p> <p>$\begin{matrix} -216 \\ 30 \end{matrix}$</p>
<p>19) $9x^2 - 12x + 4$</p>	<p>20) $8x^2 + 56x + 96$</p>

HW
11/3
Circled ones

Examples: Difference of Squares (DOS)	
<p>21) $x^2 - 4$ $\sqrt{4}$</p> <p>$(x + 2)(x - 2)$</p>	<p>22) $x^2 - 81$</p>
<p>23) $9x^2 - 25y^4$ $\sqrt{9}$ $\sqrt{25}$</p> <p>$(3x + 5y^2)(3x - 5y^2)$</p>	<p>24) $x^2y^2 - 49$</p>
<p>25) Pull out a GCF $72x^6 - 2y^2$</p> <p>$2(36x^6 - y^2)$</p> <p>$\sqrt{36}$ $\sqrt{y^2}$</p> <p>$2(6x^3 + y)(6x^3 - y)$</p>	<p>26) $2x^2y - 32x^4y$</p>